AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for automatic dose control of one or more chemicals in a liquid treatment system, which comprises~~characterized in that~~:

inputting properties of a liquid into a predefined adaptation model;

~~the properties of liquid are used to~~ modifying a change of control in the control surface of a linguistic equation (LE) controller adaptively, ~~by means of~~using ~~the~~a predefined adaptation model and the properties of the liquid ~~to~~; and

controlling the dosing of one or more chemicals to the liquid by one or more controllers.

2. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein ~~a~~said linguistic equation associated with said linguistic equation (LE) controller is a dynamic linguistic equation.

3. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein ~~a~~said linguistic equation associated with said linguistic equation (LE) controller is a static linguistic equation.

4. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein ~~a~~said linguistic equation associated with said linguistic equation (LE) controller is a non-linear linguistic equation.

5. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein at least one of said controllers is a feedback controller.

6. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein at least one of said controllers is a feedforward controller.

7. (Currently Amended) The method of claim 1, ~~characterized in that the~~ further ~~controller setup~~ comprisinges using one of more cascade controllers to improve control.

8. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said properties of the liquid are described by quality index.

9. (Currently Amended) The method of claim 8, ~~characterized in that~~wherein said quality index is purity index.

10. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said liquid is water.

11. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said liquid treatment system is a water purification system.

12. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said chemicals are coagulants, flocculants, oxidants, reductants, adsorbents, dispersing agents, biocides or defoamers or combinations thereof.

13. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said properties of liquid are defined from incoming liquid.

14. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said properties of liquid are defined from outgoing liquid.

15. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said adaptation is performed by LE-model.

16. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said adaptation is performed by fuzzy model.

17. (Currently Amended) The method of claim 1, ~~characterized in that~~wherein said adaptation is based on remote operation.

18. (Currently Amended) A device arrangement for automatic dose control of chemicals in liquid treatment system, said device arrangement ~~characterized in that it~~ comprisinges:

one or more predefined adaptation models ~~and controllers~~ which inputs properties of a liquid; and

a linguistic equation (LE) controller,~~,~~ wherein ~~and the properties of liquid are arranged to modify~~ a change of control in the control surface of the~~a~~ linguistic equation (LE) controller is modified adaptively ~~by means of a~~using one of said predefined adaptation models and the properties of the liquid, to control the dosing of chemicals to the liquid by one or more controllers.

19. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein a~~said~~ linguistic equation associated with said linguistic equation (LE) controller is a dynamic linguistic equation.

20. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein a~~said~~ linguistic equation associated with said linguistic equation (LE) controller is a static linguistic equation.

21. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein a~~said~~ linguistic equation associated with said linguistic equation (LE) controller is a non-linear linguistic equation.

22. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein at least one of said controllers is a feedback controller.

23. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein at least one of said controllers is a feedforward controller.

24. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein ~~a~~the controller setup in said device arrangement comprises one of more cascade controllers.

25. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said properties of the liquid are described by quality index.

26. (Currently Amended) The device arrangement of claim 25, ~~characterized in that~~wherein said quality index is purity index.

27. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said liquid is water.

28. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said liquid treatment system is a water purification system.

29. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said chemicals are coagulants, flocculants, oxidants, reductants, adsorbents, dispersing agents, biocides or defoamers or combinations thereof.

30. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said properties of liquid are defined from incoming liquid.

31. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said properties of liquid are defined from outgoing liquid.

32. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said adaptation is arranged to be performed by LE-model.

33. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said adaptation is arranged to be performed by fuzzy model.

34. (Currently Amended) The device arrangement of claim 18, ~~characterized in that~~wherein said adaptation is based on remote operation.

35. (Currently Amended) The device arrangement of claim 18, ~~characterized in that it~~ said device arrangement further comprisinges an intelligent analyzer which is an implemented software module or device representing measurement handling routines.